Message

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Sent: 4/25/2019 9:00:38 PM
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Subject: OPPT/OPP/OCSPP Clips 4/25

OPPT/OPP/OCSPP Daily Clips
April 25, 2019

Asbestos
Chemistry World: New US asbestos rule criticized as outright ban on the carcinogen ditched

Pesticides
The Federalist: We Don't Need To Ban Pesticides To Save Bees
Science: Sticky proteins could protect crops more safely than chemical pesticides
PFAS/PFOA/PFOS
Detroit Free Press: PFAS contamination is Michigan's biggest environmental crisis in 40 years
Environmental Working Group: EPA's Proposed PFAS Guidance Falls Far Short on Public Health Protection and Cleanup
PoliticoPro: EPA releases groundwater cleanup guidance for PFOA and PFOS
Toxic Chemicals
Chemical Watch: Massachusetts notifies expansions to reportable substances list
Minnesota Public Radio News: Chemical Safety Board calls on EPA to update hydrofluoric acid study in wake of Husky Fires
Safety and Health Magazine: Advocacy groups sue EPA over worker exclusion from methylene chloride ban
WDJT Milwaukee: Safety board urges updates to study after explosion

Asbestos
Chemistry World
New US asbestos rule criticized as outright ban on the carcinogen ditched
https://www.chemistryworld.com/news/new-us-asbestos-rule-criticised-as-outright-ban-on-the-carcinogen-ditched/3010422.article
Rebecca Trager
Posted: April 25, 2019

The US Environmental Protection Agency (EPA) is under fire for a new policy that, rather than banning asbestos outright, requires that manufacturers notify the agency and seek its approval before resuming use of the known carcinogen.

The EPA's final significant new use rule, issued on 17 April, mandates that companies obtain approval in order to domestically manufacture or import specific types of products containing asbestos. The EPA says its goal is to ensure that asbestos products no longer on the market cannot return to commerce without the agency evaluating them and putting in place any necessary restrictions or prohibitions on use. Environmental groups have said that the new policy is inadequate, however.

'This new rule makes it more difficult for industry to resume some abandoned uses of asbestos, but that is a half-step at best,' stated the Environmental Working Group's legislative attorney, Melanie Benesh. She faulted EPA chief Andrew Wheeler for not using the agency's authority under the updated Toxic Substances Control Act (Tsca) to simply prohibit all uses of asbestos.

Some key lawmakers on Capitol Hill also denounced the EPA's latest action. 'Just last week, Administrator Wheeler sat before my committee and committed to an outright ban of ongoing uses of asbestos,' said Representative Frank Pallone, who chairs the House energy and commerce committee. 'Today's rule is a complete betrayal of that commitment,' he continued. 'It does nothing to restrict ongoing uses of asbestos; instead it provides a pathway to market for uses that had previously been phased out, such as in floor tiles and insulation.'

The EPA argues that the new rule strengthens its ability to 'rigorously review an expansive list of asbestos products' that are no longer on the market before they could be sold again in the US. 'Prior to this new rule, the EPA did not have the ability to prevent or restrict certain asbestos products from being reintroduced into the market,' Wheeler saidin a statement.

The American Chemistry Council (ACC), a chemical industry trade group, endorsed the EPA's new rule. The ACC said the new rule will strengthen the agency's ability to regulate asbestos by requiring manufacturers and importers to provide notification of potential new uses of asbestos, and then requiring that the EPA subject those proposed uses to a 'rigorous safety review, regulation and restrictions'.

Pesticides
The Federalist
We Don't Need To Ban Pesticides To Save Bees
https://thefederalist.com/2019/04/25/dont-need-ban-pesticides-save-bees/
Henry Miller
Posted: April 25, 2019

Some old ideas for bad laws are endlessly recycled. Take the case of the Saving America's Pollinators Act, a nearly six-year-old initiative now cosponsored by two Democrat representatives, Earl Blumenauer of Oregon and Jim McGovern of Massachusetts.

Reintroduced for the fifth time since 2013, the bill would usurp the Environmental Protection Agency's (EPA) regulatory responsibilities by withdrawing the registrations of eight pesticides—principally neonicotinoid insecticides—that are supposedly endangering bees.

Like so many other flawed pieces of legislation, it sounds simple and unobjectionable. What could be wrong with banning pesticides that are allegedly killing the insects that pollinate our flowers and keep our food supply varied, nutritious, and affordable? As it turns out, plenty.

Neonicotinoid pesticides (neonics, for short) are state-of-the-art crop protection products that anti-pesticide zealots have been campaigning to eliminate for the better part of a decade. Applied mostly as seed coatings, which obviates the need for foliar spraying, they are absorbed into crop plants and control crop-destroying pests.

They are safe for humans and animals, and the way they are used minimizes exposure to beneficial species such as bees and other pollinators. Small wonder, then, that they've become the world's most widely used class of insecticide—and a prime target of anti-pesticide campaigners, many of whom are agents of the organic agriculture and food industries. The irony is that if passed, the Saving America's Pollinators Act would actually be *detrimental* to bees and other pollinating species, while harming America's farmers.

Apart from removing crop protection tools on which farmers depend and that are vital to the survival of the U.S. citrus industry, among others, this bill establishes a Pollinator Protection Board, which would cede to environmental activists the ability to annually review and ban any other pesticide they deem harmful to pollinators, in effect, giving them a chokehold on most U.S. agricultural production that is not organic. There are other reasons that the bill is unwise, unnecessary, and unconscionable.

The Bee-Pocalypse Isn't Real

First, and most fundamental, there is no bee-pocalypse, insect-pocalypse, or pollinator crisis. Contrary to the claims of environmental activists, honey bee populations in North America and Europe have been steady or rising throughout the two decades that neonics have been on the market.

Honey bee populations have nearly doubledworldwide since 1961. The challenges honey bees face are principally attributable to three factors: parasites, like the tenacious varroa destructor mite; pathogens, such as the widely prevalent gut fungi *Nosema apis* and *Nosema ceranae*; and habitat loss. As described in the entomology literature (e.g., here and here), however, pesticides can exert a synergistic negative effect on bees in the presence of other stressors.

Second, the U.S. EPA has been reviewing neonic registrations for several years and has issued generally favorable preliminary ecological assessments for all of them. To date, while some added label restrictions and mitigation measures have been proposed, none of these re-assessments has found circumstances meriting a wholesale ban. The Saving America's Pollinators Act would usurp EPA's deliberate, scientific review process in favor of a ban based on nothing more than environmentalists' scare-mongering.

Third, the current revival of this bill was obviously prompted by the European Union's recent total ban on outdoor uses of neonic pesticides. That decision was based on a rigged "Bee Guidance Document" (BGD) purposely crafted with field testing standards so strict that neonics would fail. It flew in the face of both the data on honey bee populations that debunked the "crisis" and the consistent evidence from large-scale field tests, which find no adverse effects on honey bees at the colony level from field-realistic exposures to neonics. (Because of its obvious flaws, the BGD was never accepted by the EU member states.)

Meanwhile, the leftist Canadian government seems headed in the same direction as the EU, but with a twist. Unable to demonstrate a neonic threat to bees after years of evaluation, its Pest Management Regulatory Agency (PMRA) has postulated a previously unheard-of threat to aquatic invertebrates from traces of neonics in freshwater sources.

To pull this rabbit out of its hat, the PMRA hypothesized a range of possible harms to aquatic invertebrates, using a standard more than 10 times more stringent than that of the U.S. EPA. This conjecture occurred in the absence of any actual demonstration of harm or even any population data on these species for comparison—all the while ignoring data from western Canada that contradicted its assumptions. Both the EU's ban and Canada's proposed phase-out are politically mandated but not scientifically supported—a terrible precedent for the United States to copy.

The Precautionary Principle

Fourth, the Blumenauer-McGovern bill would implicitly adopt the "precautionary principle" that underlies the EU's approach to environmental regulation, which can be summarized as: "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically." In practice, however, "look before you leap" becomes, "don't ever leap."

Since nothing can be proven *a priori* to be absolutely risk-free, the precautionary principle puts objectors forever in the driver's seat. Innovative product development would suffer, agricultural productivity would fall, and our global competitiveness would be compromised.

The precautionary approach is a major reason that despite enjoying some of the most favorable land and climate conditions in the world, the EU today is a net importer of food. Farmers there are having to do without state-of-the-art agricultural chemicals and genetically engineered crop plants, and their productivity is suffering.

Last but not least, American farmers would be hurt by the legislation The EU ban on neonics is devastating large swaths of agriculture, leaving crops such as oilseed rape and sugar beets vulnerable to plant pests. Ironically, it is also forcing farmers to rely on frequent, high-volume spray applications of older, harsher pesticides that are much more lethal to bees. Were it to be enacted, the Saving America's Pollinators Act would do the same in this country, all to address a nonexistent "bee-pocalypse."

In reality, it's America's farmers who need protecting—from members of Congress and the law of unintended consequences.

Henry I. Miller, a physician and molecular biologist, is a senior fellow at the Pacific Research Institute. He was formerly a fellow at Stanford University's Hoover Institution and the founding director of the FDA's Office of Biotechnology.

Science
Sticky proteins could protect crops more safely than chemical pesticides
https://www.sciencemag.org/news/2019/04/sticky-proteins-could-protect-crops-more-safely-chemical-pesticides
Erik Stokstad

Posted: 12:10pm, April 25, 2019

Many pesticides have an inherent weakness: The active ingredients don't adhere well to the plants they protect. After the chemicals are sprayed onto crops, rain can wash them off into the soil and groundwater. Farmers must spray again and hope for dry weather.

Now, researchers have devised a stickier approach to protecting plants, one that could be applied less frequently than chemical pesticides and might be less toxic. They have designed a molecule with two separate chains of amino acids, called peptides. One peptide embeds itself in the waxy surface of a leaf, holding tight in the rain; the other juts out like a spear to attack microbial pests. In a proof of concept published this month in *Green Chemistry*, lab tests showed the molecules lessened symptoms of soybean rust, a dreaded fungus that causes one of the world's worst agricultural diseases.

The peptides will face many challenges before they can reach the market. But plant pathologists say they could be a flexible new way to protect crops. "With the current scale of the soybean rust problem, and the rapid evolution of resistance against multiple fungicides, any addition to the toolbox would be welcome," says Nichola Hawkins at Rothamsted Research in Harpenden, U.K. Ralph Hückelhoven at the Technical University of Munich in Germany also considers the technique promising. "It opens a treasure box of solutions," he says. "It's a bit surprising that no one has done this before."

Top of Form

Bottom of Form

To make the new pesticide, plant pathologist Uwe Conrath and protein engineer Ulrich Schwaneberg of RWTH Aachen University in Germany teamed up. Schwaneberg specializes in the directed evolution of peptides—adding genes to microbes to produce them, for example, and relying on rounds of mutation and selection to develop strains that produce peptides with improved traits. He has created peptides that attach to slick surfaces such as polypropylene. The team found two that also anchor themselves onto soy leaves.

Waterproof protectionAn antimicrobial protein has been designed to stick to leaves in the rain. One part of the protein is anchored in leaf wax. The other ruptures membranes of fungal spores.

Attaching a fluorescent protein to the anchor peptides showed that about 60% to 70% of the leaf remained covered with them, even after the plant was doused in a rain simulation chamber. These two anchor peptides also clung well to the leaves of barley, corn, blueberry, and other crops. Schwaneberg says they can be engineered to adhere more or less tightly, as desired.

The next step was to attach an antimicrobial peptide to the anchor. The team chose dermaseptin, a peptide discovered years ago in the skin of tree frogs. Dermaseptin attacks a broad array of microbes, including bacteria and fungi, somehow rupturing their cell membranes. Conrath notes that pathogens are much less likely to evolve resistance—a problem with chemical pesticides—because it is difficult to change the basic structure of cell membranes.

When tested on glass slides, the fused peptide was about as effective against soybean rust spores as chemical fungicides. But in lab tests on plants, the peptide reduced symptoms of rust by only about 30%. "It's not enough," says Emilio Montesinos, a plant pathologist and agronomist at the University of Girona in Spain. "If you want to extend these results for crop protection, you need to do much more work." Conrath thinks a tactic already used by industry for other pesticides could yield more potent peptides: adding chemicals to distribute them evenly across leaves.

He acknowledges that the peptides are only at the beginning of the pesticide development process, which can last a decade and cost $200 million on average. RWTH Aachen has patented the concept, and Conrath and Schwaneberg plan to start a company to pursue deals with large pesticide manufacturers. They will need help lowering the cost of making the peptides. One way—engineering microbes to produce the peptides themselves in industrial vats—can be tricky when the desired protein tends to kill the microbes that make it.

Another question is safety. Dermaseptin would need to be evaluated for its possible toxicity to humans, as well as the accidental harm it could cause to beneficial insects, fungi, or microbes. "It's broad-spectrum and it's persistent, and that creates a regulatory concern," says Roma Gwynn, who runs Rationale, a pesticide consultancy in Duns, U.K.

Studies indicate that dermaseptin does not harm mammalian cells, and any residues could be removed by washing the plant product with enzymes. Microbes would likely break down peptides remaining in the fields, Conrath says.

As for target pathogens, the team is already thinking beyond soybean rust. They have showed that dermaseptin-based peptides can help protect maize from the common fungus *Colletotrichum graminicola*. They also want to try attach ing the anchor peptide to *Bacillus thuringiensis*, or *Bt*, a insect-killing microbial toxin widely used by organic farmers and engineered into transgenic crops.

Before that, however, Conrath and Schwaneberg plan to outfit their anchors with tiny amounts of copper, commonly used by vineyards and organic farms to fight fungi and other pathogens. This fall, with a €1 million grant from Germany's Federal Ministry of Food and Agriculture, the team will test the approach in vineyards in southern Germany, which could reduce copper spraying and the runoff that contaminates soil. They're hoping the idea will stick.

PFAS/PFOA/PFOS

Detroit Free Press
PFAS contamination is Michigan's biggest environmental crisis in 40 years
https://www.freep.com/in-depth/news/local/michigan/2019/04/25/pfas-contamination-michigan-crisis/3365301002/
Keith Matheny
Posted: 8:00am, April 25, 2019

Sandy Wynn-Stelt knows it's too late for herself. The chemicals she drank for perhaps 25 years out of her tap — the ones that now poison her blood at levels 750 times the average American's — will remain inside her body.

They may naturally work their way out over years, toxicologists say. But no one can tell Wynn-Stelt definitively what her prolonged exposure to massive levels of per- and polyfluoroalkyl substances — PFAS, the emerging contaminant causing a rising crisis across Michigan and the country — will mean for her future health.

PFAS contamination is Michigan's biggest environmental crisis in 40 years
PFAS contamination is not a Michigan problem but also a nationwide problem.
DETROIT FREE PRESS

The U.S. Environmental Protection Agency's health advisory level in drinking water for two of the most common PFAS compounds, known as PFOS and PFOA, is 70 parts per trillion. The levels in Wynn-Stelt's drinking water tested as high as 76,000 parts per trillion.

Michigan may have more than 11,000 sites contaminated with these once-common chemicals, now linked to cancer and a host of other ailments. Regulators have identified 46 sites statewide with levels above the EPA's health limit in groundwater.

"It's kind of this fatalistic view when you realize you've drank so much of this, and you've got so much in you," said Wynn-Stelt, 59.

PFAS in Michigan: What to know about contaminant, exposure risk, drinking water concerns


Show caption
Sandy Wynn-Stelt of Belmont stands in her home on Monday, March 11, 2019. Wynn-Stelt lives across the street from the former House Street landfill, where...RYAN GARZA, DETROIT FREE PRESS

She learned in 2017 that her drinking water well was tainted by a plume of PFAS groundwater contamination that came from a landfill across the street from her house in the Kent County community of Belmont, where Wolverine Worldwide, the longtime shoe and leather products maker in neighboring Rockford, for years dumped waste sludge from its tannery.

Wolverine made popular Hush Puppies shoes treated with ScotchGard for water resistance. That water resistance came from PFAS compounds.

"I don't know if I worry about my health so much at this point because there's nothing I can do about it," Wynn-Stelt said.

"I'm trying to put my time and energy into making sure this doesn't happen again."


Show caption
PFAS foam floats along Van Etten Creek after being dumped from a pipe of water treated at a granular activated carbon GAC plant from the...RYAN GARZA, DETROIT FREE PRESS

PFAS contamination is Michigan's most widespread, serious environmental crisis since the 1973 PBB disaster, when polybrominated biphenyl fire retardant was accidentally mixed with cattle feed at the Velsicol Chemical factory in St. Louis, Michigan. More than 500 contaminated Michigan farms were quarantined, and 30,000 cattle, 4,500 pigs, 1,500 sheep, and 1.5 million chickens were destroyed. Approximately 85% of the Michigan public received some exposure to the contaminant, tied to cancer, thyroid and hormonal disorders. Studies on long-term effects are still continuing.

There are thousands of PFAS chemicals, many of them little-understood byproducts. Though the chemicals were distributed, purposefully and inadvertently, by 3M, DuPont and other chemical companies for generations, virtually nothing is known about most of them. But PFOS and PFOA — the compounds most frequently cited by regulators because they have received more scrutiny — have been linked to cancer; conditions affecting the liver, thyroid and pancreas; ulcerative colitis; hormone and immune system interference; high cholesterol; pre-eclampsia in pregnant women, and negative effects on growth, learning and behavior in infants and children.

What is PFAS? An overview of 'The Forever Chemical'
The chemical contaminant PFAs is emerging as a big problem in Michigan.
KEITH MATHENY, DETROIT FREE PRESS

From the late 1940s to the 2000s, PFAS was the 3M Corporation's wonder product. The compounds made by the Minnesota-based company repelled grease and water, so they could be used for a host of processes and consumer products, from wrapping paper for hamburgers to microwave popcorn bags, from nonstick cookware to carpet and upholstery stain guards, from waterproofing shoes and clothes to use in chrome plating industries and even dental floss.

The qualities that made it so useful, however, also make it virtually impossible to break down in nature — giving the compounds the ominous nickname "the forever chemical." PFAS can now be found in the blood of nearly 99% of Americans. It has even been found in polar bears in the Arctic Circle, as the chemicals have worked their way up the food chain from fish and seals.

The ramifications from PFAS's widespread use, its persistence and its harm continue to reverberate in Michigan and elsewhere:

- Some 46 Michigan locations have PFAS compounds in groundwater that exceed the EPA's 70 parts-per-trillion health advisory level. The Michigan Department of Environmental Quality (now known as the Department of Environment, Great Lakes and Energy) has estimated PFAS could be found at more than 11,300 sites in Michigan — fire stations, municipal airports, military sites, refineries and bulk petroleum stations, wastewater treatment plants, old landfills, and various industrial sites.
- Seventeen rivers, lakes, streams and ponds throughout Michigan have "do not eat" fish advisories, or limitations on consumption of fish, because of PFOS contamination, including Saginaw Bay, Lake St. Clair and portions of the Au Sable, Huron, Flint, Saginaw and St. Joseph rivers.
- Michigan last year became the first state to issue a PFAS-related, do not eat advisory for deer — in a 5-mile radius of Clark's Marsh, near the shuttered Wurtsmith Air Force Base in Oscoda, after a deer there was found with elevated PFOS levels in its blood.
- Anecdotal evidence of a chilling effect on hunting and fishing in affected locations could harm a hunting and fishing economy in Michigan that the nonprofit Michigan United Conservation Clubs, in a report released in January, put at $11.2 billion and 171,000 jobs each year.
- Homeowners are worried the emerging contaminants are damaging their property values and discouraging new, local businesses. Iosco County's largest employer is in limbo on plans to expand its operations at the Oscoda-Wurtsmith Airport because of the ongoing contamination concern.
- PFOS and PFOA were largely phased out of U.S. production by 2015, under EPA pressure. But the chemicals have never been outright banned, and their production shifted to China and other countries, so the contaminants continue to pollute the globe.
- Two of the first PFAS-like compounds the chemical industry has begun making and using to replace PFOS and PFOA, called GenX and PFBS, have their own health and environmental concerns. The EPA in November announced that toxicology studies show human livers are sensitive to GenX chemicals, and the kidney and thyroid are sensitive to PFBS. The state of North Carolina in 2017 discovered GenX now pollutes the Cape Fear River and surrounding groundwater, a significant source of public drinking water. State regulators tie the pollutant to a chemical plant in Fayetteville owned by Chemours, a spinoff company from DuPont, which manufactured Teflon containing PFAS compounds for decades.
- Having known at least since the 1990s of health and environmental concerns associated with PFAS, the EPA still has only set an advisory limit — with no enforcement power — for two types of PFAS compounds, out of thousands. Michigan is following the EPA number, though a science advisory panel convened by former Gov. Rick Snyder concluded last December that the number "may not provide a sufficient margin of safety" for public health. Gov. Gretchen Whitmer has directed that Michigan develop its own, enforceable PFAS drinking water standards by the end of this year.
- Other states are more restrictive. California and New Jersey both have groundwater advisory levels set at 13 parts per trillion for PFOS and 14 parts per trillion for PFOA, and New Jersey is considering making its an enforceable limit, one by which regulators can direct a polluter to clean up until the pollution no longer exceeds the standard. Vermont sets a limit of up to 20 parts per trillion total combined for PFOS, PFOA and three other PFAS compounds. Most U.S. states, however, still have no PFAS water contamination standard in the works.

It's not just Michigan's problem. Products containing PFAS were used almost everywhere. The Pentagon last year identified 401 military sites across the U.S. where there are known or suspected releases of PFOS and PFOA through the use of firefighting foam. On at least 160 of those sites, the PFAS contamination in groundwater exceeds the EPA's health advisory level.

An analysis by the nonprofit Environmental Working Group, using EPA data, last year found that up to 1,500 public drinking water systems nationwide, serving 110 million Americans, contain PFOA, PFOS and other PFAS compounds.

"The whole PFAS issue kind of shows the failure of the entire environmental protection effort that's going on in this nation," said Robert Delaney, a DEQ remediation project manager at Wurtsmith, where PFAS contamination first rose into Michigan's consciousness. Delaney, the first official in Michigan to sound an alarm on the pervasiveness and danger of PFAS contamination statewide, emphasized he was speaking for himself, and not the DEQ.

"Industry understood that these chemicals were toxic maybe 40 years ago. And yet today, we're having a hard time getting the federal government to address even two of the maybe 3,000 to 5,000 PFAS chemicals that are out there."

Wynn-Stelt moved to her House Street home in Belmont with her husband, Joel, in 1992, attracted to the surrounding forests and Christmas tree farm on the other side of the street, providing their front-window view. No one told the couple that the trees were planted over the former sludge dump from Wolverine Worldwide's leather tannery.

Show caption
Left: Sandy Wynn-Stelt of Belmont stands in her home on Monday, March 11, 2019. The DEQ informed her in 2017 that her well water had...RYAN GARZA, DETROIT FREE PRESS

Joel died on March 26, 2016, at age 61 of liver cancer, only a few weeks after being diagnosed. Wynn-Stelt says she has no idea whether the exposure to PFAS contamination caused her husband's cancer.

"I will never know, and that is part of what keeps you up," she said. "It makes it really hard to grieve when you have all of these unknown questions kind of going through your head."

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In 1938, Dr. Roy J. Plunkett, working at the DuPont Company's Jackson Laboratory in Deepwater, New Jersey, discovers nonstick PFAS chemicals by accident during a failed experiment with refrigerants. The white, waxy material was the slipperiest substance ever found, and heat-resistant. Initially used in military and industrial applications, within 10 years, DuPont was producing about 2 million pounds of PFAS compounds per year, as it exploded into a variety of consumer uses. It was produced from PFAS chemicals provided by the Minnesota Mining and Manufacturing Co., or 3M.

A statewide problem in Michigan

Major centers for Michigan's PFAS crisis are on two different sides of the Lower Peninsula: Oscoda, near Lake Huron, where the contaminant first emerged at the former Wurtsmith Air Force Base and is now affecting ground and surface water in the surrounding community; and in west Michigan, where more than 1,500 private wells are contaminated in northern Kent County in and around Belmont and Rockford from PFAS associated with Wolverine Worldwide's leather operations. About an hour south, in Parchment in Kalamazoo County, a paper mill's landfill leached PFAS compounds into the community's drinking water supply.

But they are not the only PFAS problem sites in Michigan. The 46 sites at which groundwater contamination exceeds the EPA's 70 parts-per-trillion health advisory limit for PFOS and PFOA cover much of Michigan:

- In Grand Haven, Robinson Elementary School was quickly switched to bottled water last October after its well water tested for PFOS and PFOA at levels above the EPA health advisory mark. The source of the contamination there is unknown.
- Sites in the Upper Peninsula near Marquette and Escanaba have high levels of PFAS in soils and groundwater, related to operations at the now-closed K.I. Sawyer Air Force Base.
- Around Grayling and Alpena, military-related facilities that used PFAS-containing firefighting foam are also contaminated.
- In Grand Traverse County's Blair Township, the use of firefighting foam on a 1995 tire fire — one fire, more than 20 years ago — has left groundwater with excessive levels of PFAS compounds.
- In Cass County's Howard Township, a 2016 tanker truck fire in which the foam was used has also left PFAS contamination in water and soil.
- The Clinton River and Lake St. Clair near the Selfridge Air National Guard Base in Monroe County's Harrison Township is contaminated because of firefighting foam use over years on the base.

The State of Michigan, in addition to testing public water systems, surface waters and fish for PFAS exposure statewide, is also beginning to assess just how exposed its citizens have become in the west Michigan hot spots.

Federal, state and local health officials are collaborating to assess the exposure levels of those with drinking water tainted from Wolverine Worldwide's sludge disposal sites.

Affected residents are being contacted and asked to participate in clinics, where they provide demographic data and a blood sample. Health officials are hoping to get 400 samples of blood from two resident groups: Those whose water tested for PFAS compounds above 70 parts per trillion, and those who had some PFAS in their water, but below 70 parts per trillion. After exposures are characterized, further studies may be conducted to examine how health issues potentially correlate with PFAS blood or water levels.

Oscoda's dilemma: To complain or not

In Oscoda, the community faces a tough choice, Oscoda Township supervisor Aaron Weed said.

The Air Force is not effectively acting to curtail the PFAS contamination that is emanating from the former base, where it was used in firefighting foam over decades. The contamination is getting to residential wells, Van Etten Lake and the Au Sable River, Weed said.

Township residents need to call attention to the Air Force's inaction, he said. But Oscoda is heavily reliant on summer tourism, cottage rentals, hunting and fishing. And every bit that the community is tied to a contamination problem potentially harms that economic driver.

"This is the problem we run into," Weed said. "We have a lot of people who are affected, who are upset about it, but don't want to be public about it."

"We take a hit," said Arnie Leriche, a co-founder of Need Our Water, or NOW, a grassroots community group engaged on the PFAS problem at Wurtsmith. "We're a resort community, a low-density population, and we take a hit for every single word in the press (about PFAS) ...

“(But) it's good that it's there. It needs to be portrayed that this is a statewide issue, and the state government, the past eight years, (hasn't wanted) to send that message out."

Robert Tasior is vice chairman of the township planning commission and a member of the Wurtsmith Restoration Advisory Board, or RAB, a body that meets quarterly, giving community members a chance to meet with the Air Force, the DEQ, the health department and others on where the cleanup stands.

Robert A. Tasior stands next to water from the Van Etten Creek in Oscoda on Wednesday, March 13, 2019 near the dam that feeds to Van Etten Lake.RYAN GARZA, DETROIT FREE PRESS

Tasior said his wife, Devon, a real estate agent in the community, has lost sales related to the ongoing PFAS situation.

"One couple was looking at half-million-dollar homes on Lake Huron, but they decided because of the contamination that they were going to look down the road, farther away from Oscoda," he said.

"She's lost a couple of sales on Van Etten Lake because of the contamination — she has had people say it's because of the contamination."

Kalitta Air, at the Oscoda-Wurtsmith Airport, is the largest employer in Iosco County. The company ships cargo by air and also provides jet engine maintenance for others, including Boeing and General Electric.

"They've got 1,400 employees here, air mechanics who make pretty good money, right here on the (former) base," Leriche said.

Already boasting 240,000 square feet of hangar and engine shop space, company officials are interested in expanding by one or two additional hangars, expecting to create 150 additional jobs. But the company wants protection from the U.S. government against liability from the existing PFAS contamination, and the Air Force has refused, Leriche said.

Show caption
Piles of dirt dug up on the former Wurtsmith Air Force Base in Oscoda that has to remain on the property is seen by a...RYAN GARZA, DETROIT FREE PRESS

"They don't own the land — the township redevelopment authority owns the land; it was given to them by the Air Force," he said. "The Air Force has a covenant on the deed. That covenant allows the Air Force to do remediation, to do sampling, to even hold up a project until they clean up contamination."

But that cleanup is moving painfully slowly.

"Delay is hurting our businesses," Leriche said.

'We know we've got a toxic foam'

The DEQ last October issued its second Notice of Violation to the Air Force for its lack of response to the PFAS contamination near Wurtsmith.

“The slow response by the Air Force to the Wurtsmith contamination is having an increasingly negative impact on the people, wildlife, and environment in Oscoda,” Carol Isaacs, then-director of the Michigan PFAS Action Response Team, a group of state agencies working together on PFAS issues, said at the time.

The DEQ has sought to require the Air Force to comply with the state's regulatory limit for PFOS where groundwater vents to surface waters,12 parts per trillion, to help address the continued problem of foam on streams, rivers and lakes near Wurtsmith, including into Lake Huron. Foam samples in the area have tested at more than 110,000 parts per trillion for combined PFOS and PFOA.

The Air Force, however, has declined, stating it is not required to comply with the state's rules, only CERCLA, the federal Superfund law. The DEQ believes the area around the base perimeter needs 18 granular activated carbon filtration plants to effectively contain and begin to clean up the contamination affecting surface waters; the Air Force has installed two.

"Those (filtration) plants only cover a small portion of the plume — there are still huge swaths that are not being taken care of," Weed said, adding he has met with "absolute resistance" from the Air Force, and that "it looks like they are trying to just avoid responsibility, even if they have to get ridiculous about it."

Show caption
Left: Oscoda Township Supervisor Aaron Weed talks about the PFAS contamination stemming from the former Wurtsmith Air Force Base in Oscoda on Wednesday, March 13,...RYAN GARZA, DETROIT FREE PRESS

A recent revelation might shed light on why that's happening. The New York Times on March 14 wrote that the Pentagon, in a report to Congress last year, expressed support for a PFAS cleanup level at its military facilities of 380 parts per trillion, or more than five times the EPA health advisory level for drinking water. The Defense Department has identified 401 military facilities nationwide where PFAS compounds were used, and the drinking water or groundwater of at least 90 of those sites is contaminated with PFAS.

Said Weed, "I've told the Air Force, 'Get the money to fix this problem at Wurtsmith,' And they've said, 'Well, if we do that, then we have to get money for all the 40 other BRAC bases (Base Realignment and Closure, Air Force bases closed at the end of the Cold War).'

"And I said, 'What's the problem with that? You don't have to treat us special — treat them all. Take care of the problem.' "

Meanwhile, recreational activities are being affected by PFAS fish advisories.

Gene Kirvan is a charter captain in Oscoda, one of the few who offer year-round charters on both nearby Lake Huron and the Au Sable River. The DEQ issued a "do not eat the fish" advisory for Clark's Marsh and the eastern Au Sable River for resident, non-migratory fish as far back as 2012, after testing near the Wurtsmith base found astronomical levels of PFAS in some fish. That hurt Kirvan's business, he said.

"It was a bit of a shell shock," he said. "When a lot of people saw the signage, they didn't quite understand what species were specified, what area was specified. Clarification would have helped soften some of the bomb blast."

After educating potential charter-takers that prized migratory fish caught out of the Au Sable — walleye, rainbow trout, steelhead, and salmon — aren't affected by PFAS restrictions, "they are fine," Kirvan has found.

While sensitive to the impact fish advisories can have on a business like his, Kirvan questions why regulators haven't yet done more testing of fish — and more informing of anglers — on Van Etten Lake, just outside Wurtsmith.

Show caption
A person canoe's along Van Etten Creek in Oscoda Township on Wednesday, March 13, 2019 as a storm pipe pumps water treated at a granular...RYAN GARZA, DETROIT FREE PRESS

"We know Van Etten Lake is another hot spot" for PFAS, he said.

"We know we've got a toxic surfactant foam out on the lake. We know that foam is hazardous to humans. However, we don't see any warnings posted, nothing to warn the consumer."

DEQ spokesman Scott Dean said new "Eat Safe Fish" guidelines for fish in Van Etten Lake were updated and distributed last year, factoring in the results of earlier testing of fish in the lake for mercury and PFOS.

Air Force Secretary Heather Wilson, in a March 3 letter responding to inquiries by U.S. Sen. Gary Peters, D-Michigan, said, "The situation at Wurtsmith is complex. While solutions do not come quickly under the CERCLA (Superfund) process, the Air Force is committed to working with Michigan to find effective solutions within our authorities."

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In a study published in 2004 in the peer-reviewed Archives of Environmental Contamination and Toxicology, researchers examined whether PFAS compounds could be found in fish and animals in and around the Great Lakes. The study found PFOS in zebra mussels and small crustaceans called amphipods at levels 1,000 times greater than the waters surrounding them, indicating the chemical builds up and is stored in the organisms. PFAS compounds were found in every fish tested: round gobies and smallmouth bass, in the livers of chinook salmon taken on the Grand River, in the livers of lake whitefish from Thunder Bay in northern Lake Huron, in brown trout eggs from Lake Superior. It was found in the livers of

mink and green frogs from Kalamazoo and in the livers of seven dead bald eagles collected at various locations in the Upper Peninsula. "Concentrations of PFOS were the greatest in mink and bald eagles," the study found.

Why PFAS stayed on the market

The U.S. approach to chemical regulation has led to a thriving, profitable, job-creating industry. But there are trade-offs.

"The fallout of having less restrictive regulations on what we produce is that we're constantly performing an uncontrolled experiment," said Matthew Simcik, an associate professor of environmental chemistry in the University of Minnesota School of Public Health.

"We're constantly putting these chemicals out there, people are constantly getting exposed, and we're always playing catch-up on what are the effects."

Congress in 1976 passed the Toxic Substances Control Act, ostensibly to regulate potentially harmful or environmentally damaging chemicals before they came to market. But it never worked as advertised, and, under chemical industry pressure, it grandfathered in, without examination, 62,000 chemicals already in use at the time it was enacted, including PFAS compounds.

"What happens in the U.S. is we produce a chemical, make a bunch of money off it, and then somebody will realize something about it is bad," Simcik said

PFAS contamination in Michigan

It's different in the European Union. Under their chemical regulations, prior registration is compulsory when a company intends to manufacture or import a ton or more per year of a particular substance. Regulators can limit or ban the production, marketing or use of certain substances if they are deemed to pose an unacceptable risk to health or the environment.

The first substantive revision to the Toxic Substances Control Act in 40 years hasn't alleviated critics' concerns.

A 2016 revision to the law provided a process by which to assess new chemicals for safety before their widespread distribution. But within a year, the EPA, which was responsible for the evaluation, had a backlog of more than 600 new chemicals awaiting review, until President Donald Trump's then-EPA Administrator Scott Pruitt announced the elimination of the backlog in August 2017. The chemical industry applauded the announcement, while some environmentalists worried the process was shifting to a priority of quickly clearing chemicals for market rather than protecting public health and the environment.

Added David Andrews, senior scientist at the nonprofit, Washington-based Environmental Working Group, "The whole system for regulating drinking water contaminants is completely broken."

The process of regulation is hard to navigate by design, he said.

"Corporations, not just on PFAS but other chemicals as well, would like to see no changes ever in the regulatory requirements," Andrews said.

"There's an ever-increasing body of science on how widespread these PFAS contaminants are, of how big of an impact they are having on human health. Really expedited action on setting a drinking water standard is the lowest bar here."

But most of the U.S. doesn't yet have PFAS on its radar in the way that Michigan and a few other states do, Andrews said.

"We're still really behind the ball on where this contamination is, where it's coming from," he said.

"Nationally, there's no dedicated effort to identify contaminated sites and clean them up. This issue is much bigger than PFOA and PFOS. There needs to be a national effort to understand and restrict these compounds. The data sets are woefully inadequate."

The EPA responded to Free Press requests for an interview with an emailed statement, touting the PFAS Action Plan the agency released in February. The plan, notably, does not include a timetable by which it will set an enforceable standard for PFOS and PFOA, one that can be used to force cleanups by polluters.

"EPA is continuing to work through the process outlined in the Safe Drinking Water Act to evaluate drinking water standards for PFOA and PFOS," agency officials stated. "This includes a formal process for public input and engagement with stakeholders and scientific advisors in order to ensure scientific integrity and transparency. We are also gathering and evaluating information to determine if regulation under the Safe Drinking Water Act is appropriate for other chemicals in the PFAS family."

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Researchers in a study published in the peer-reviewed Journal of Occupational Medicine in September 1993 examined the mortality of employees at a production plant making PFAS compounds. Among their findings: "Ten years of employment in exposed jobs was associated with a 3.3-fold increase in prostate cancer mortality compared to no employment in PFOA production."

3M, in a voluntary agreement with the EPA in 2000, began a phaseout of its manufacture and use of PFOS and PFOA. But it sold the rights to make PFOA to DuPont, which used it in its Teflon product lines. DuPont would continue to use the product until 2015.

Parchment's tainted water supply

In Parchment, the PFAS contamination problem isn't tied to individual wells, but the municipal drinking water supply for the entire city, more than 3,100 people in the Kalamazoo County community and neighboring Cooper Township. It's the only city in the DEQ's review of more than 1,380 public water systems with PFAS levels above the EPA 70 parts per trillion benchmark, testing as high as 1,500 parts per trillion for combined PFOS and PFOA last July.

A Parchment history sign next to the Kalamazoo River in Parchment, Wednesday, Feb. 6, 2019.JUNFU HAN, DETROIT FREE PRESS

The city's name comes from the paper mill around which the community was built in 1909. The mill operated under varying names over the years, ultimately landing with paper products giant Georgia-Pacific. By the 1990s, 3M-made PFAS compounds were used at the mill to create products including grease-resistant food wrappers for hamburgers and other sandwiches. The mill disposed of its wastes in its own landfill near the site.

In April 2002, Georgia-Pacific entered a consent order with the DEQ, setting forth Georgia-Pacific's responsibilities in closing the mill's landfill. The DEQ noted that "[n]ot closing the landfill could result in contamination continuing to emanate into the Kalamazoo River."

That same year, DEQ found that Parchment's well field was "highly susceptible to potential contaminants." PFAS contamination was confirmed in Parchment's water last July.

Parchment resident David Dykehouse near the water tower at the Kindleberger Park in Parchment, Wednesday, Feb. 6, 2019.JUNFU HAN, DETROIT FREE PRESS

With the exception of a stint in the military, David Dykehouse has lived his entire life in Parchment, on the same street, Parchmount Avenue.

The news of the drinking water contamination "instantly made my stomach upset, to think that not only myself, but my wife and daughter" were exposed for an unknown period of time, he said.

Then Dykehouse started thinking about his family's health history. He has elevated cholesterol levels; his wife has a thyroid condition that "is off the charts in comparison to a normal thyroid issue," he said. Both conditions have been tied to exposures of PFOS and PFOA.

Both Dykehouse's maternal and paternal grandmothers died of cancer on Parchmount Avenue, as did a grandfather. His aunt died of throat cancer in the same neighborhood at age 48.

"You can't help but wonder if the water had something to do with it," he said.

Dykehouse has signed on to class-action litigation against 3M and Georgia-Pacific.

"I've been here all this time, and kept in the dark about it," he said. "I think it's time people started knowing.

"I hope we get to the bottom of how this came about, and we fix it for future generations."

Nicholas Coulson, Dykehouse's attorney, said Georgia-Pacific is named as a defendant because it was "the entity that was responsible, pursuant to an agreement with MDEQ, for closing the landfill in a safe way." But the reasons the Parchment residents in the class-action suit have named 3M as a defendant go far deeper.

"All in the name of profit, they continued to suppress and actively make sure that no one found out how dangerous these chemicals were, and what impacts they had on animals," Coulson said.

"They did studies on rodents; they did studies on the blood concentrations of these chemicals in their own workers. And they sat on it all, and they affirmatively prevented other people's research from making it into the public eye. As a result, it was 2018 before anybody got around to looking in Parchment, Michigan, for these chemicals. And so, as a result of that, thousands of people were drinking it for time unknown."

3M responded to Free Press requests for an interview with an emailed statement.

"3M has dedicated substantial time and resources to researching PFAS and, to that end, we have invested more than $600 million on research, technology, and clean-up efforts related to PFAS," company officials stated. "As a responsible steward of our community, we have a record of sharing information we learn with government regulators, the scientific community, as well as local and federal officials."

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"As a precautionary measure, approximately 25 women of childbearing potential have received job reassignments at the

3M Decatur plant this week so they will not be exposed to a type of fluorochemical that can cause birth defects in rats," 3M stated in a draft news release dated April 15, 1981.

"Preliminary results from a recent 3M toxicology study showed that three related fluorochemicals affected eye development in the fetuses of rats, according to Phil Raths, manager of the Chemical Resources Division plant."

3M would market and sell PFAS chemicals for two more decades, with no EPA action to stop it.

Warnings unheeded for years

The DEQ's Delaney started sounding the alarm over PFAS contamination long before the state took the actions it's taking now.

The Wurtsmith Air Force Base in Oscoda shut down in June 1993 after 70 years of operation, a casualty of the end of the Cold War with the Soviet Union.

As the base for years hosted nuclear-armed B-52 bombers, personnel trained for rapid response to an aircraft fire.

"Weekly, they would go out and pour airplane fuel on the ground, basically diesel, and light it," Delaney said. "And they would put it out with firefighting foam, for practice for their airmen."

Show caption
Robert Delaney of Michigan Department of Environmental Quality speaks with Oscoda residents during an open house meeting regarding the contamination at the former Wurtsmith Air...RYAN GARZA, DETROIT FREE PRESS

The Air Force, as it worked on environmental cleanups around the base before and after its closure, had told the DEQ that it had looked at the fire training areas and determined the firefighting foam wasn't a concern, that it could be broken down with bio-treatments — "basically, that the bugs ate the stuff up," Delaney said.

"There was never any concern about what they were fighting the fires with. It was all about the fuels, the spent solvents and other things that had gotten on the ground, and gotten into the groundwater."

Then Delaney attended a conference in Florida on emerging contaminants in 2010, and learned about problems related to persistent firefighting foam contamination. He went back to Oscoda and asked a consultant to get some groundwater samples at the shuttered base's fire training area, and to find a lab that could test for PFAS.

"I'm thinking these things are gone, because they are surfactants — it's essentially a soap," Delaney said. "I'm thinking they are going to be flushed away. But nope, they are there at relatively high levels."

A state toxicologist put the recommended cleanup criteria at 60 parts per trillion. A part per trillion equals one drop in 20 Olympic-size swimming pools.

"When we start talking parts per trillion, that means something is extremely toxic and dangerous," Delaney said."I realized, I've got this big problem dealing with the Air Force now. I've got to go and tell them that they're not done."

Delaney spent the rest of that year reading everything he could on PFAS and what was known about its danger. Up until the end of 2010, he said he was "just like everybody else," believing America had the strongest environmental safeguards anywhere, preventing new problems from emerging and allowing for cleanup of old problems.

"But in 2010, that worldview was shattered," he said.

"I became convinced by the end of the year that these things were really, really dangerous. ... I felt nobody realizes this. I honestly felt like I was looking down into the abyss."

Delaney prepared a slide show for DEQ management about the problem in February 2011. The agency later that year sampled fish in waters around the Wurtsmith base. The results came back on May 2, 2012, and fish were so contaminated that the district health department, that same day, put out "do not eat the fish" advisories for ponds in Clark's Marsh near the base and a nearby stretch of the Au Sable River for resident, non-migratory fish.

That spurred the Air Force into action on PFAS at the base, Delaney said. But the Air Force's limited efforts to contain the contamination weren't stopping it from emanating off the base and into the nearby community's groundwater, rivers and lakes.

By 2012, turnover at the DEQ left few around who'd seen Delaney's 2011 slide show presentation.

"It started dragging on and on," Delaney said. "I saw the department not doing anything."

'There will be many other sites in Michigan'

By August 2012, with the assistance of University of Colorado toxicologist Richard DeGrandchamp, Delaney had followed through on a promise to prepare a report for new DEQ Director Dan Wyant.

"There will be many other sites in Michigan that contain high levels of PFCs (per- or polyfluorinated compounds) in the environment and in biota (animal and plant life) and potentially in citizens of the state," Delaney prophetically stated in the report to Wyant and others at the DEQ. The report later added, "Communities with fire training facilities, other Department of Defense (DOD) bases, metal platers, other major airports, major transportation corridors, and other industrialized areas all could have extensive contamination by PFCs."

"When my report landed on (Wyant's) desk, they didn't know what to do with it, I think," Delaney said.

The DEQ began a statewide reconnaissance study of PFAS in fish and water in June 2013, according to a timeline the agency provided the Free Press. Sampling was completed one year later, and "do not eat the fish" advisories were issued on the Flint River and Rogue River in Rockford by 2014.

In Delaney's opinion, however, not much else was happening. The agency was not driving any concerted look at other military sites, airports, fire halls or other locations where PFAS compounds might be throughout the state, he said.

In the fall of 2017, a retired DEQ employee shared Delaney's white paper with Steve Gruber, a Lansing radio talk show host. By October, Gruber had Delaney on his show. Less than a month later, Gov. Rick Snyder announced the Michigan PFAS Action Response Team, MPART, which included the state departments of Environmental Quality, Health and Human Services, Military and Veterans Affairs and Agriculture and Rural Development. The group began undertaking an assessment of all municipal water supplies in the state of Michigan for 24 PFAS compounds, the first such statewide examination anywhere in the country.

An MPART science advisory panel, led by Brown University epidemiologist and toxicologist David Savitz, last December found that the 70 parts per trillion EPA health advisory limit, upon which Michigan is relying as a regulatory standard, is likely not protective enough of human health.

Delaney said he has come to believe that widespread chemical contamination is contributing to the crisis of emerging diseases and disorders in America and elsewhere.

"Our bodies are incredibly fine-tuned instruments," he said. "And if you start screwing around with chemicals our bodies have never seen, our bodies don't know how to process it. We can't break these chemicals down — our bodies were never designed to do that. So if they somehow interfere, you can have a huge problem."

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In 1951, DuPont's Teflon was frequently turning out too lumpy in the manufacturing process. The company began using another PFAS chemical from 3M as a smoothing agent, known as perfluorooctanoic acid, or PFOA. It was also called C8, as the compound contained eight carbon molecules. It would soon be found in many PFAS-containing products, including ScotchGard protector, a stain repellent 3M began marketing in 1956. Five years later, in 1961, the federal Food and Drug Administration approves using DuPont's Teflon product to create nonstick cookware. Both consumer products take off in popularity.

'The kinds of things that make you fall to sleep at night and cry'

Despite the statewide warning flags Delaney had been waving in Oscoda since 2010, it was an odd coincidence that thrust Belmont and the northern Kent County PFAS problem into the spotlight about seven years later.

The Department of Defense, by 2017, had ordered all of its installations nationwide to test for the presence of PFAS compounds. That included the Belmont Armory, a former church.

"That armory was only used for band practice — they didn't do any firefighting training," said DEQ environmental quality analyst Karen Vorce.

But the armory came back as a hit for PFAS contamination, beyond the 70 parts per trillion EPA health advisory limit — not because of military contamination, but because of the nearby, closed, leaching landfill for Wolverine Worldwide's PFAS-laden tannery sludge.

"That really gave us the data to show to Wolverine, to say, 'You need to do this (neighborhood water testing) fast, and get on this,' " Vorce said.

It was a June day in 2017, a little more than a year after her husband's death from liver cancer, when Sandy Wynn-Stelt was met at her mailbox on House Street by DEQ staff, who asked whether they could test her home's water.

"They were saying, 'It's just out of an abundance of caution,' " she said.

Three weeks after testing, Wynn-Stelt got a call from a district health department official, who wanted to set up a meeting in her home with the health department, DEQ, a toxicologist and some others.

"I knew it wasn't good because you never get a committee to your house to give you results," she said.

As they told her of the sky-high PFAS levels in her drinking water, no one in the committee meeting mentioned Wolverine Worldwide, or the former landfill across the street, Wynn-Stelt said.

"Then we (contaminated House Street residents) got water and gift cards dropped off," she said. "And we were told that these were dropped off by Wolverine Worldwide. I think they said something like they are not taking responsibility for it, but they are trying to be good neighbors."

Only later did Wynn-Stelt find out about the long-closed sludge dump across the street, used in the 1960s.

Hundreds of barrels of dirt sample collected from a former Wolverine World Wide tannery site in Rockford, March 1, 2019.JUNFU HAN, DETROIT FREE PRESS

Thirty-five houses along House Street tested high for PFAS compounds that summer, including Wynn-Stelt's 76,000 parts per trillion reading. Plumes have been discovered throughout about a 25-square-mile area, going in different directions from the tannery and at least two landfills. The DEQ has not yet defined the outer edges of the contamination plumes.

All told, 536 homes in the area have received whole-house, granulated activated carbon filtration systems for their water.

Tim and Jill Osbeck live in the Wellington Ridge development, about a mile from the North Kent Landfill, where Wolverine Worldwide also disposed of its sludge. Their home's well water initially tested at about 8,900 parts per trillion for PFAS compounds. It has since tested as high as 17,600 parts per trillion.

"You get angry; very angry," Jill Osbeck said. "You feel violated, when you think that your drinking water's been clean. And you think about, our kids were here, when they were younger, drinking it on a regular basis. And then our grandkids — we were feeding them formula bottles with our water. It gets you emotionally, very much so."

Now the Osbecks must build their life around weekly water tests and quarterly filter changes on the whole-house filtration system since installed in their home by Wolverine Worldwide's consultants. Their next-door neighbors, however, had only 3 parts per trillion of PFAS compounds in their well water.

"It's just the plume that you've hit," Tim Osbeck said.

Show caption
"There is a lot of fear in the unknown. You don't know how long we have been exposed. We donĺt know yet the levels that...RYAN GARZA, DETROIT FREE PRESS

Meanwhile, Wolverine Worldwide is claiming it's a victim of 3M as well, suing the company in late 2018 for "concealing information about Scotchgard and causing environmental issues."

Wolverine officials, in response to requests for an interview, referred the Free Press to a company statement:

"From the start, we've taken proactive, aggressive actions to ensure all affected residents have access to safe drinking water. In addition, we have worked closely with U.S. EPA, MDEQ, and other regulators to test sites for the presence of PFOA and PFOS, two of the chemicals contained in 3M Scotchgard used in Wolverine's legacy operations. Most recently, we've taken legal action against 3M, which profited for decades from the manufacture and sale of Scotchgard to Wolverine and millions of others, yet refuses to take responsibility for the consequences."

The statement also notes that Wolverine has sampled more than 1,500 nearby residential wells, and provided more than 700 whole-house or point-of-use water filtration systems to affected residents.

Today, the PFAS-laden waste material at the House Street landfill and other sites in the Kent County contamination zone is still there, still emanating PFAS into groundwater. The EPA worked last year to characterize the type and extent of the waste, and plans to begin the work to remove it later this year.

Wynn-Stelt now looks out her window at the Christmas tree farm across House Street and feels far different emotions today.

"For all the years I lived here, no one came and told us what was disposed of there, when they knew it was dangerous," she said. "None of that information was ever shared with me.

"Those are the kinds of things that make you fall to sleep at night and cry, because you wonder: Had they told me that 20 years ago, would my life be different now?"

Contact Keith Matheny: 313-222-5021 or kmatheny@freepress.com. Follow on Twitter @keithmatheny

Environmental Working Group
EPA's Proposed PFAS Guidance Falls Far Short on Public Health Protection and Cleanup
https://www.ewg.org/release/epa-s-proposed-pfas-guidance-falls-far-short-public-health-protection-and-cleanup
Alex Formuzis
Posted: April 25, 2019

WASHINGTON – The draft interim recommendations for cleanup of the toxic fluorinated chemicals known as PFAS, announced today by Environmental Protection Agency chief Andrew Wheeler, are a woefully inadequate response to the growing nationwide crisis of drinking water contaminated with PFAS, said EWG Senior Scientist David Andrews.

"This proposal is not a serious response to a drinking water contamination crisis that has already ballooned out of control," said Andrews. "It is a Band-Aid, at best, that does essentially nothing to help the hundreds – perhaps thousands – of communities, in almost every state, with contaminated tap water. Americans need real and swift action to address this crisis, not more toothless proposals from the Trump administration."

Wheeler's proposal falls short in three significant ways:

- It does not declare PFAS chemicals to be hazardous substances under the Superfund cleanup law.
- It does not legally require the chemical industry or Pentagon to clean up contaminated industrial sites, dumps or military facilities.
- It recommends cleanup of groundwater to 70 or 40 parts per trillion, or ppt, based on EPA's non-binding lifetime health advisory level for drinking water. Studies by the federal Agency for Toxic Substances and Disease Control, scientists for a number of states, and private researchers have found that those levels are far too high to protect public health. Many states, such as New Jersey, New York and Vermont, have proposed drinking water and groundwater standards at or near 20 ppt for the combined level of PFOA and PFOS – the two most notorious of the hundreds of PFAS chemicals in current use.

EWG has called on the Trump administration and Congress to take a series of steps to protect the public from further exposure to PFAS chemicals, including directing the military to quickly clean up contaminated bases, make polluters pay their fair share, add PFAS to the Superfund cleanup law and set an enforceable, health-protective limit for tap water.

PoliticoPro
EPA releases groundwater cleanup guidance for PFOA and PFOS
https://subscriber.politicopro.com/article/2019/04/epa-releases-groundwater-cleanup-guidance-for-pfoa-and-pfos-3137893
Annie Snider
Posted: 12:52pm, April 25, 2019

EPA has released guidance on how stringently two toxic chemicals should be cleaned up at Superfund sites and other contaminated properties around the country, setting a goal that is far stricter than the Defense Department had sought.

The "Draft Interim Recommendations," which were stalled in interagency review at the White House for more than seven months, sets a cleanup goal of 70 parts per trillion for the chemicals PFOA and PFOS in groundwater that is a current or potential source of drinking water. That goal matches EPA's 2016 drinking water health advisory.

"Today, we are delivering on one of our most important commitments under the PFAS Action Plan," Administrator Andrew Wheeler said in a statement.

The Defense Department, which says it has 401 sites with known or suspected contamination from the chemicals, had fought that cleanup level fiercely, arguing for a much higher standard of 400 parts per trillion, according to Senate Environment and Public Works Committee Ranking Member Tom Carper (D-Del.).

The cleanup goal is not a firm standard; under the Superfund law, cleanup levels for individual sites are set on a site-specific basis, taking into account factors like the other contaminants at the site and how the property is likely to be used in the future.

EPA said in its press release that the guidance was based on the agency's "current scientific understanding of PFAS toxicity" and would be revised "as new information becomes available."

The guidance will be open for public comment for 45 days.

Toxic Chemicals

Chemical Watch
Massachusetts notifies expansions to reportable substances list
https://chemicalwatch.com/76861/massachusetts-notifies-expansions-to-reportable-substances-list?q=EPA
Kelly Franklin
Posted: April 25, 2019

Massachusetts's Department of Environmental Protection has provided guidance on recent additions to its list of reportable substances under the state's Toxics Use Reduction Act (Tura).

A 3 April notice outlines changes to the reporting scheme, which requires users of large quantities of certain toxic substances to report annually and pay a fee.

Among these is a requirement to begin reporting next year for C1-C4 halogenated hydrocarbons and halocarbons. These are defined as "chemicals with four or fewer carbons, at least one halogen, and only hydrogen as the other constituent, that are not already individually listed on the Tura chemical list."

Effective in reporting year 2020, the state will also require reporting for a nonylphenol ethoxylates (NPEs) category.

MassDEP notes that, although these reports will not be due until 2020 or 2021, it is important that companies begin tracking the substances' use now.

The notice also clarifies that for the current reporting year, reports must be submitted for the hexabromocyclododecane (HBCD) category. Reports covering 2018 activities are due on 1 July.

Under Tura, facilities that manufacture, process or use a regulated chemical above certain reporting thresholds are generally required to report to the state. The state's list of reportable substances includes those on the US EPA's Toxics

Release Inventory (TRI) list and the Comprehensive Environmental Response, Compensation, and Liability Act (Cercla) 'Superfund' list.

Minnesota Public Radio News
Chemical Safety Board calls on EPA to update hydrofluoric acid study in wake of Husky Fires
https://www.mprnews.org/story/2019/04/25/wpr-chemical-safety-board-calls-on-epa-to-update-hydrofluoric-acid-study-husky-fires
Daniella Kaeding, Wisconsin Public Radio
Posted: April 25, 2019

The U.S. Chemical Safety Board is calling on the U.S. Environmental Protection Agency to revisit a 1993 study on hydrofluoric acid in the wake of an explosion and series of fires at the Husky Energy oil refinery in Superior last year.

Kristen Kulinowski, the CSB's interim executive, said the agency should examine existing regulations and risk management procedures.

"We'd also like them to examine the possibility of replacing this material with inherently safer alkylation technologies, which are now coming online and being tested in some facilities around the country," she said.

In 1990, Congress passed amendments to the Clean Air Act that required the EPA to promulgate its risk management plan rule, process safety management for the Occupational Safety and Health Administration, and create the Chemical Safety Board. The idea was those elements would provide a framework to protect workers and communities from the release of hazardous materials, as well as identify the reasons behind accidents and recommendations to prevent them.

"Over the years, the CSB has found some deficiencies in the application of these programs in or in fact in some of the elements," Kulinowski said.

She said in some cases they saw failures in the application of those standards while in other circumstances the standards didn't anticipate the hazards that may exist at sites.

"In this case, hydrofluoric acid is recognized in the regulatory framework as a hazardous substance, and there are programs to control and manage the risks," she said. "But, we find that despite these programs we still have incidents that occur across the country on a weekly basis -- certainly serious incidents less frequently than that. But, these programs are not alone sufficient to protect communities from all the hazardous substances that may be in their midst."

Kulinowski said they hope the EPA will update its study to prevent further incidents similar to the refineries in Torrance, Calif., and Superior.

"We would like to see the protective action taken before we have to suffer some terrible tragedy, and we're hoping that EPA agrees and takes a fresh look at HF, the risk management plans and potentially safer alternatives," she said.

An EPA spokeswoman said the agency is reviewing the CSB's letter.

Congress directed the EPA to conduct the study in 1990 to pinpoint impacts to the environment and human health. Since then, an explosion at the ExxonMobil refinery in Torrance, California occurred in its fluid catalytic cracking unit in 2015, which is similar to the explosion that occurred at Husky's refinery in Superior last year.

Hydrofluoric acid, which is also known as hydrogen fluoride, is a highly toxic chemical that can be hazardous to human health if released. The chemical can kill at concentrations of 30 parts per million, according to the CSB.

In a statement Wednesday, Husky spokesman Mel Duvall said the company appreciates the value the CSB provides to promote safety across the industry.

"The hydrogen fluoride (HF) safety systems in place in April 2018 operated as designed during the incident and there was no release of HF," Duvall wrote in an email. "The refinery has already installed additional protective measures, such as a laser detection system."

Duvall added the company also plans to add a rapid acid transfer system to transfer the chemical to another holding tank in the event of a release. He said they also plan to incorporate more layers of water mitigation that may include additional water curtains or cannons, as well as enhanced leak detection.

"The refinery has safely used HF for almost 60 years, and the proposed additional safety features and modernizations will further enhance safety for the refinery and our neighbors," wrote Duvall.

Fears over a potential release of the chemical prompted the evacuation of Superior residents last spring. Debris from the explosion came within 150 feet of the hydrogen fluoride tank.

Around one-third of the nation's 150 refineries still use the chemical in its refining process. The chemical is used as a catalyst in producing high octane gasoline.

More than one-third of roughly 1,600 Superior residents surveyed this winter by a local activist group said they would like to see the use of hydrogen fluoride banned in the city. Three dozen people were injured as a result of the explosion last April, according to the CSB's update on its findings last August.

Kulinowski said recent incidents in Houston, Texas, have delayed the completion of other open investigations, including the CSB's investigation into the Husky refinery incident.

In March, several ground storage tanks were engulfed in flames at the Intercontinental Terminals Company site in Deer Park Texas, near Houston.

"We're diligently working on all of our investigations, and we expect the Husky report to be released hopefully at the end of this calendar year," she said.

Safety and Health Magazine
Advocacy groups sue EPA over worker exclusion from methylene chloride ban
https://www.safetyandhealthmagazine.com/articles/18360-citing-fatalities-advocacy-groups-sue-epa-over-worker-exclusion-from-methylene-chloride-ban
Staff
Posted: April 25, 2019

Washington — A coalition of groups representing worker rights has filed a lawsuit against the Environmental Protection Agency and Administrator Andrew Wheeler for not including workers in the agency's final rule banning methylene chloride for consumer use.

The groups, which filed a petition for review April 18 in the U.S. Court of Appeals for the 2nd Circuit, allege that the rule leaves thousands of workers at risk by not finalizing a previous proposal related to commercial paint and coating removal.

Published in the March 27 *Federal Register*, the final rule prohibits manufacture (including import), processing and distribution of methylene chloride in paint removers for consumer use and requires manufacturers, processors and distributors to notify retailers and others in the supply chain about the ban.

However, in contrast to a proposed rule issued in January 2017, EPA is not finalizing "a determination of unreasonable risk from the use of methylene chloride in commercial paint and coating removal," the final rule states.

In 2014, EPA found that exposure to methylene chloride – frequently used for bathtub refinishing – may cause adverse health effects, including cancer, harm to the central nervous system and toxicity to the liver. The rule states that EPA is aware of four fatalities linked to the substance in paint and coating removal since publication of the proposed rule, as well as 49 from 1976 to 2016.

The lawsuit petitioners include Earthjustice, on behalf of the Labor Council for Latin American Advancement; the Natural Resources Defense Council; Safer Chemicals, Healthy Families; and the Vermont Public Interest Research Group. Also listed are Lauren Atkins and Wendy Hartley, whose adult sons died from methylene chloride exposure, according to an April 23 Earthjustice press release.

"If dozens of confirmed deaths are not enough to get the Trump administration to protect workers from methylene chloride paint strippers, nothing short of a court order will," Jonathan Kalmuss-Katz, an attorney for Earthjustice, said in the release. "There is no law, science or policy behind the exclusion of workers from EPA's methylene chloride rule. It is a craven and illegal giveaway to companies that want to continue to manufacture and sell deadly paint strippers."

In May 2018, EPA issued a press release indicating that the agency planned to submit finalized rulemaking of the consumer and commercial ban to the White House Office of Management and Budget "shortly."

On behalf of LCLAA and NRDC, Earthjustice in February filed a lawsuit against EPA and Wheeler in the U.S. District Court for the Southern District of New York, challenging the ban's delay.

Methylene chloride is among the first 10 chemicals EPA is evaluating for potential health and environmental risks under the Frank R. Lautenberg Chemical Safety for the 21st Century Act. In the March 27 *Federal Register*, EPA published an advance notice of proposed rulemaking seeking public comment on potential training, certification and limited access program guidelines for commercial use of the chemical.

Comments on the ANPRM are due May 28, the same day the final rule is set to take effect.

WDJT Milwaukee
Safety board urges updates to study after explosion
https://www.cbs58.com/news/safety-board-urges-updates-to-study-after-explosion
Associated Press
Posted: 1:53pm, April 25, 2019

MADISON, Wis. (AP) — The U.S. Chemical Safety Board wants federal regulators to re-examine a 1993 study on hydrofluoric acid after an explosion at a Superior oil refinery last year.

The board sent a letter Wednesday to the U.S. Environmental Protection Agency asking the agency to review the study to determine the effectiveness of existing regulations and the viability of using safer technologies in refineries, Wisconsin Public Radio reported.

Hydrofluoric acid, also known as hydrogen fluoride, is a highly toxic chemical that can cause serious injury or death at a concentration of 30 parts per million. The chemical is used in about 50 of the nation's approximately 150 oil refineries.

An April 2018 explosion at the Husky Energy refinery in Superior sent debris within 150 feet of the refinery's hydrofluoric acid tank, forcing a large part of the city to evacuate. A similar blast occurred at the ExxonMobil refinery in Torrance, California, in 2015.

The safety board's interim executive, Kristen Kulinowski, said the board has found failures in application of safety standards and the standards didn't anticipate the hazards that may exist at sites.

"We would like to see the protective action taken before we have to suffer some terrible tragedy, and we're hoping that EPA agrees and takes a fresh look at (hydrofluoric acid), the risk management plans and potentially safer alternatives," Kulinowski said.

An EPA spokeswoman said the agency is reviewing the board's request.

Husky spokesman Mel Duvall said the company appreciates the board's efforts. He stressed the Superior blast didn't release any hydrofluoric acid and the refinery has already installed additional protective measures. The company also plans to add a rapid transfer system that can move the chemical to another holding tank in the event of a release and enhance leak detection efforts.